

# ***Global Climate Change: Trends and Policy Issues***

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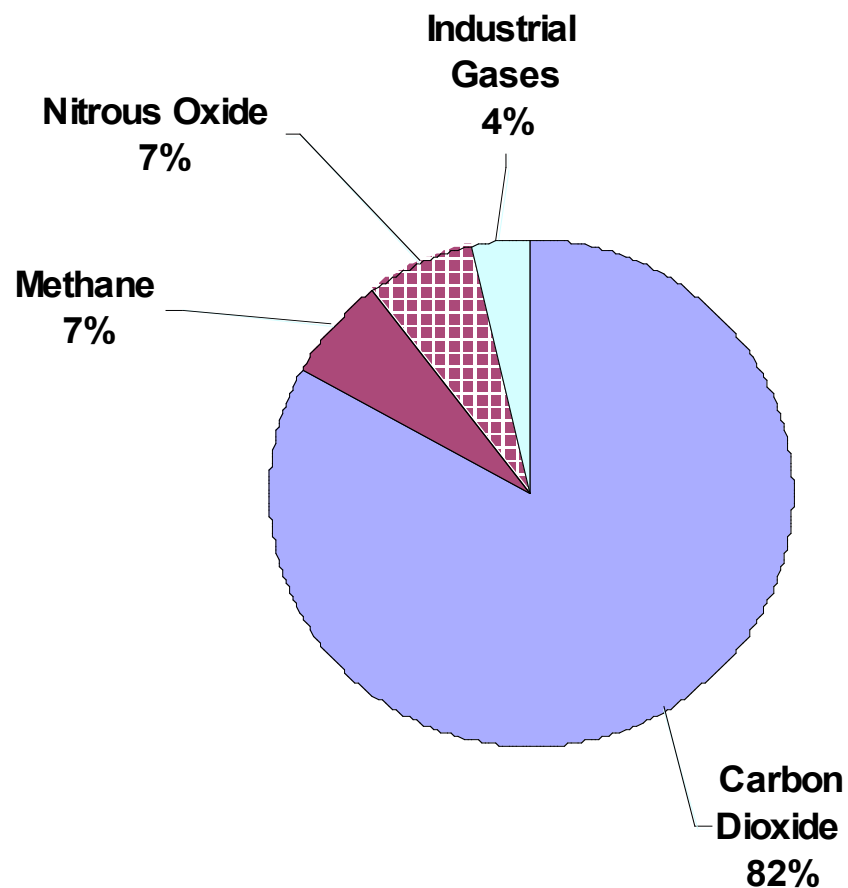


# Greenhouse Gas Emission Trends

- CA produces 7.5 percent of U. S. carbon dioxide emissions and 1.8 of the world's human-caused GHG emissions.
- CA has low carbon intensity per capita, relative to other states.
- CA's GHG emissions are large and growing, due to population and economic growth.
- Based on latest CEC data, GHG emissions grew 13 percent from 1990 to 2001 and will grow 32 percent from 1990 to 2020.
- Imported power has had a greater carbon intensity than in-state electricity since 1990.

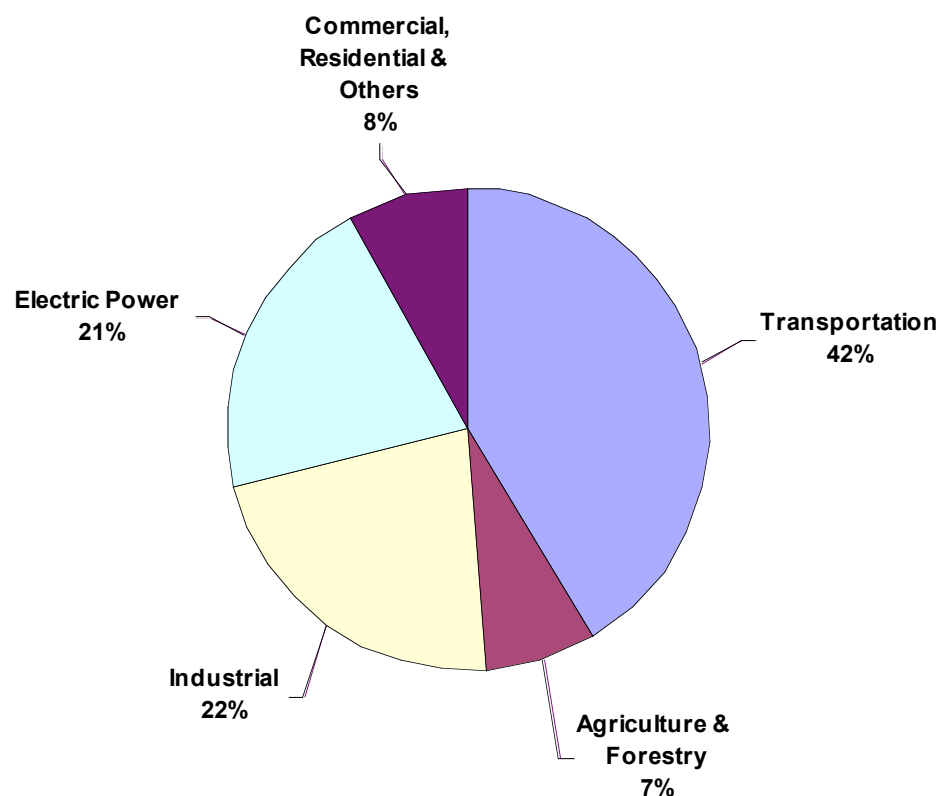


# California's 2001 Greenhouse Gas Emissions



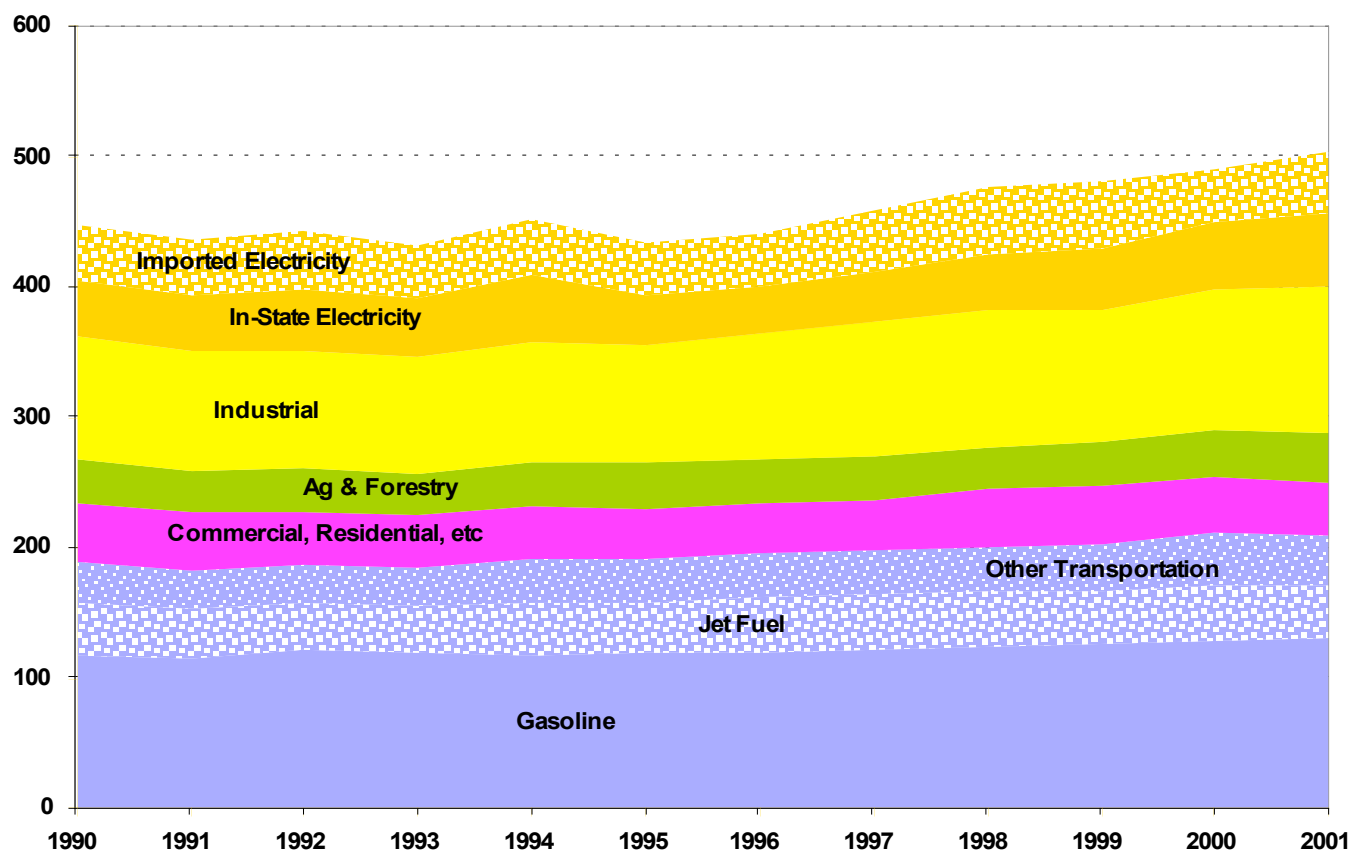
# California's 2001 Greenhouse Gas Emissions

(Imported electricity is included.)

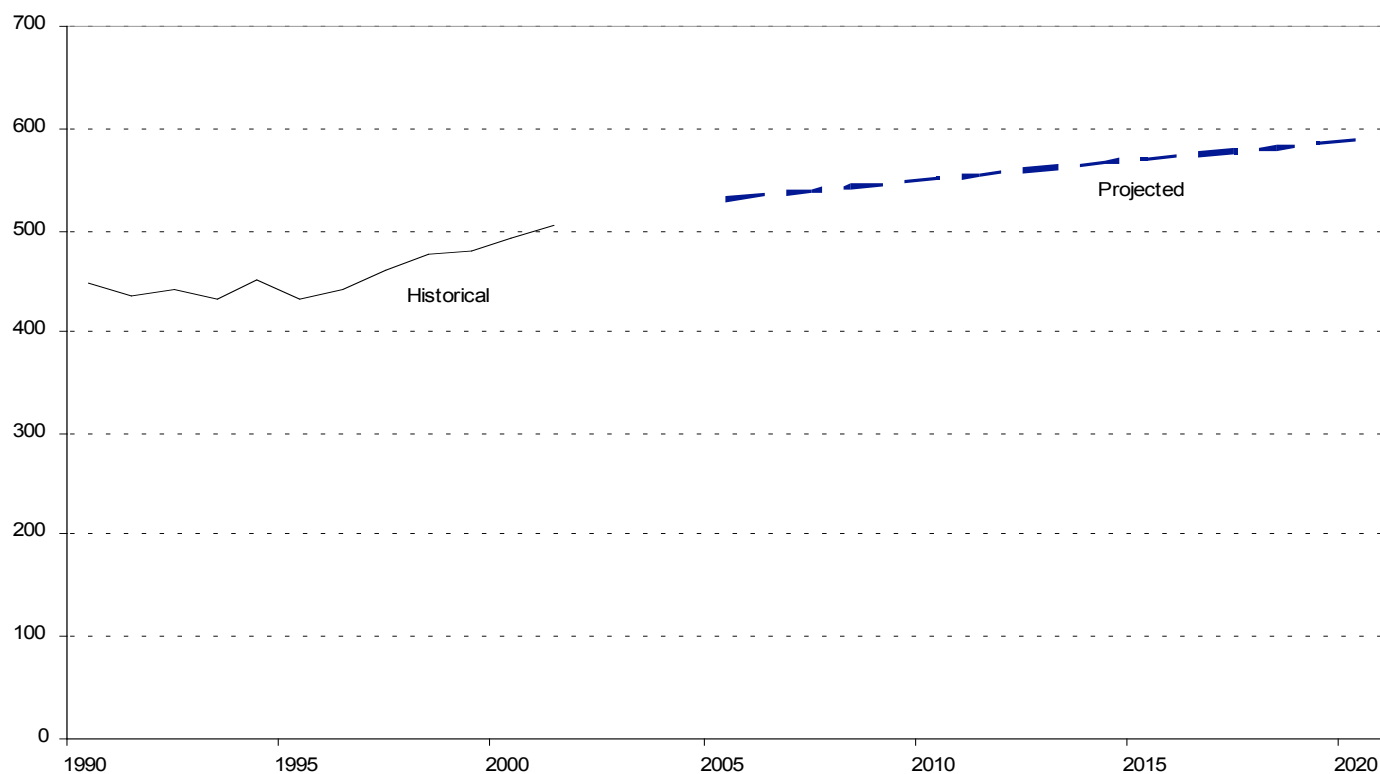


# California GHG Emissions Growth

(Million Metric Tons of Carbon Dioxide Equivalent)



# Growth in GHG Emissions: Historical and Projected (Million Metric Tons of Carbon Equivalent)



# Current Energy Commission Activities

- State energy and climate change policy development through the 2005 Integrated Energy Policy Report
- State coordinator for the West Coast Governors' Global Warming Initiative
- Climate Change Advisory Committee (Chapter 1018, Statutes of 2000)
- State greenhouse gas emissions inventory
- Climate change science: \$4 million annual research budget



## State Policies with Climate Co-Benefits

- Promote energy efficiency through standards and other programs
- Accelerate the Renewable Portfolio Standard to 2010
- Expand markets for low-carbon fuels
- Support R&D for high-efficiency gas generation and carbon sequestration.
- Improve waste recycling, forest and livestock management
- Incorporate climate change risk in utility resource procurement and state PERS investment portfolios





## ***West Coast Governors' Global Warming Initiative***

- California, Oregon and Washington Governors called for regional actions in September 2003.
- Staff recommendations in November 2004.
- Three states have agreed to work together to:
  - **Adopt common motor vehicle standards**
  - **Explore a market-based carbon allowance**
  - **Establish regional climate change goals**



# **CEC Climate Change Advisory Committee:**

## **Key Policy Questions:**

- What strategies should California pursue beyond existing policies and programs?
- What criteria should be used to select these strategies?
- What business opportunities exist for California corporate leaders?
- What options warrant further evaluation?



## CEC Advisory Committee Feedback

- **Strategies to reduce greenhouses should be practical and cost-effective.**
- **Largest emitting sectors are transportation, industrial (e.g. petroleum refining, semi-conductor, cement) and power generation.**
- **Any “cap-and-trade” system should be comprehensive and economy-wide.**
- **State level GHG accounting should promote consistency at the national and international levels.**
- **Policy input is requested for the 2005 Integrated Energy Policy Report.**



## **CEC Climate Research Program: Key Research Questions**

- What are plausible climate change scenarios for California?
- How would climate change (the physical impacts) affect CA's environment and economy?
- What are the merits of different mitigation and adaptation strategies?
- How would climate change affect energy supply and demand?
- How would climate change policies affect the state's economy?



## Recent Scientific Findings

- Scientists agree that climate change is real and human-induced.
- Climate change will affect the state's natural resources and the economy
- Climate modeling suggests probable scenarios of precipitation, snow pack and temperature changes.
- Not yet consensus on the timing and magnitude and degree of climate change impacts.



# Climate Change Web Page

The Energy Commission's web page links to other federal, state and international web sites on global climate change.

For further information, please see

[www.climatechange.ca.gov](http://www.climatechange.ca.gov)

